

AMENDMENTS TO THE CLAIMS

Please amend the claims as they currently stand so that they are in accord with the following listing of the claims:

1. (currently amended) An apparatus for the classification of ~~physiological~~ cardiac events on the basis of cardiac physiological signals, said apparatus comprising:

a signal preparation unit which is adapted for processing intracardial electrograms (IEGM);

a probabilistic neural network which is adapted to receive a set of values representing an ~~the physiological signal~~ intracardial electrogram and which contains a number of event classes which represent ~~physiological~~ cardiac events and which are respectively determined by a number of comparative values, which probabilistic neural network is adapted on the basis of the comparison of the set of values with the comparative values to implement an association of the intracardial electrogram ~~physiological signal~~ represented by the set of values with one of the event classes; and

an updating unit connected to the probabilistic neural network for updating the comparative values of an event class on the basis of the set of values of at least one ~~physiological signal~~ intracardial electrogram which has been associated with said event class in a preceding association operation.

2. (currently amended) The apparatus of claim 1, wherein:

the updating unit is so designed that upon updating of the comparative values an average value is formed from a number of value sets which have previously resulted in an association of the ~~physiological signals~~ intracardial electrograms which they represent with the event class to be updated and wherein the updating operation is effected on the basis of the average value formed in that way.

3. (currently amended) The apparatus of claim 1, wherein:

the updating unit is so designed that upon updating of the comparative values exponential weighting of a number of value sets which have previously resulted in an association of the ~~physiological signals~~ intracardial electrograms which they represent with the event class to be updated is effected and wherein the updating operation is effected on the basis of the exponentially weighted value sets.

4. (previously presented) The apparatus of claim 3, wherein:

the updating unit is so designed that updating of an event class is effected after the association of a n-th value set with said event class, wherein that defines a predetermined number of value sets.

5. (previously presented) The apparatus of claim 4, wherein:

different values for n are to be associated with different event classes.

6. (currently amended) The apparatus of claim 5, further comprising:

a signal input for the input of a processed intracardial electrogram ~~physiological~~ signal from said signal preparation unit; and

a transformation unit which is connected to the signal input for receiving the ~~physiological~~ processed intracardial electrogram signal and which is adapted to implement a transformation of the ~~physiological~~ processed intracardial electrogram signal in such a way that as the output signal it outputs said set ~~a number~~ of values representing the ~~physiological~~ intracardial electrogram signal and based on the transformation operation; wherein the probabilistic neural network is connected to the transformation unit for receiving the values as the value set.

7. (previously presented) The apparatus of claim 6, wherein:

the transformation unit is adapted for executing the transformation operation on the basis of wavelets and a transformation rule determining the values to be outputted using the wavelets.

8. (currently amended) An implantable medical device, comprising:

an apparatus for the classification of ~~physiological~~ cardiac events on the basis of ~~physiological~~ intracardial electrogram signals comprising:

a signal preparation unit which is adapted for processing intracardial electrograms (IEGM);

a probabilistic neural network which is adapted to receive a set of values representing an ~~the physiological~~ intracardial electrogram signal and which contains a number of event classes which represent ~~physiological~~ cardiac events and which are respectively determined by a number of comparative values, which probabilistic neural network is adapted on the basis of the comparison of the set of values with the comparative values to implement an association of the ~~physiological~~ intracardial electrogram signal represented by the set of values with one of the event classes; and

an updating unit connected to the probabilistic neural network for updating the comparative values of an event class on the basis of the set of values of at least one ~~physiological signal~~ intracardial electrogram which has been associated with said event class in a preceding association operation.

9. (previously presented) The implantable medical device of claim 8, wherein:

the medical device is in the form of a cardiac pacemaker or defibrillator.

10. (previously presented) The apparatus of claim 1, wherein:

the updating unit is so designed that updating of an event class is effected after the association of a n-th value set with said event class, wherein that defines a predetermined number of value sets.

11. (previously presented) The apparatus of claim 2, wherein:

the updating unit is so designed that updating of an event class is effected after the association of a n-th value set with said event class, wherein that defines a predetermined number of value sets.

12. (previously presented) The apparatus of claim 10, wherein:

different values for n are to be associated with different event classes.

13. (previously presented) The apparatus of claim 11, wherein:

different values for n are to be associated with different event classes.

14. (currently amended) The apparatus of claim 1, further comprising:

a signal input for the input of a processed intracardial electrogram ~~physiological~~ signal from said signal preparation unit; and

a transformation unit which is connected to the signal input for receiving the ~~physiological~~ processed intracardial electrogram signal and which is adapted to implement a transformation of the ~~physiological~~ processed intracardial electrogram signal in such a way that as the output signal it outputs said set ~~a number~~ of values representing the ~~physiological~~ intracardial electrogram signal and based on the transformation operation; wherein the probabilistic neural network is connected to the transformation unit for receiving the values as the value set.

15. (previously presented) The apparatus of claim 14, wherein:

the transformation unit is adapted for executing the transformation operation on the basis of wavelets and a transformation rule determining the values to be outputted using the wavelets.

16. (new) The apparatus of claim 1 wherein said signal preparation unit includes an anti-aliasing filter adapted to suppress signal components in said intracardial electrograms that occur at frequencies above half a sampling rate.